[Bulletins 138 to 150 constitute the Report for 1907. In binding, pages i-viii at the end of this bulletin should be detached and placed before Bulletin 138, which begins with page 1.]

# Maine Agricultural Experiment Station

BULLETIN No. 150. DECEMBER, 1907.

FINANCES, METEOROLOGY, INDEX.

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**This bulletin contains the summary of the meteorological observations, the report of the treasurer, the index for the bulletins issued in 1906, and the introduction to the annual report. Bulletins 138 to 150 make up the Twenty-third annual Report of the Station.**

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Requests for bulletins should be addressed to the
AGRICULTURAL EXPERIMENT STATION,
Orono, Maine.

# MAINE

# AGRICULTURAL EXPERIMENT STATION

# ORONO, MAINE.

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## THE STATION COUNCIL.

| | |
|---|---|
| PRESIDENT GEORGE E. FELLOWS | *President* |
| DIRECTOR CHARLES D. WOODS | *Secretary* |
| JOHN A. ROBERTS, Norway | *Committee of Board of Trustees* |
| CHARLES L. JONES, Corinna | |
| SAMUEL W. GOULD, Skowhegan | |
| AUGUSTUS W. GILMAN, Foxcroft | *Commissioner of Agriculture* |
| EUGENE H. LIBBY, Auburn | *State Grange* |
| CHARLES S. POPE, Manchester | *State Pomological Society* |
| RUTILLUS ALDEN, Winthrop | *State Dairymen's Association* |
| JAMES M. BARTLETT | *Members of the Station Staff* |
| LUCIUS H. MERRILL | |
| FREMONT L. RUSSELL | |
| GILBERT M. GOWELL | |
| EDITH M. PATCH | |
| WARNER J. MORSE | |
| RAYMOND PEARL | |

## THE STATION STAFF.

| | |
|---|---|
| CHARLES D. WOODS | *Director* |
| JAMES M. BARTLETT | *Chemists* |
| LUCIUS H. MERRILL | |
| HERMAN H. HANSON | |
| ARTHUR C. WHITTIER | |
| JOANNA C. COLCORD | |
| FREMONT L. RUSSELL | *Veterinarian* |
| GILBERT M. GOWELL | *Poultry Investigations* |
| WALTER ANDERSON | |
| EDITH M. PATCH | *Entomologist* |
| WARNER J. MORSE | *Vegetable Pathologist* |
| RAYMOND PEARL | *Biologists* |
| FRANK M. SURFACE | |
| REX C. GELLERSON | *Inspector* |
| ROYDEN L. HAMMOND | *Seed Analyst and Photographer* |
| ANNIE M. SNOW | *Clerk and Stenographer to the Director* |
| BLANCHE F. POOLER | *Stenographer* |
| HENRY A. MILLETT | *Meteorological Observer and Janitor* |
| FRANK D. STERRY | *Laboratory Assistant* |

## METEOROLOGICAL OBSERVATIONS.

Lat. 44° 54′ 2″ N. Lon. 68° 40′ 11″ W. Elevation 150 feet.

The instruments used at this Station are the same as those used in preceding years, and include: Wet and dry bulb thermometers; maximum and minimum thermometers; rain-gauge; self-recording anemometer, vane, and barometer. The observations at Orono now form an almost unbroken record of thirty-nine years.

January was 3 degrees and February 5 degrees below the average, while March, April and May fell from 1 to 3 degrees below the average. On the other hand, December was over 7 degrees above the average for that month. Other minor compensations brought the mean temperature of the year within 0.29 degrees of the average. The precipitation was very unevenly distributed, with a total 1.32 inches below the average.

## METEOROLOGICAL SUMMARY FOR 1907.

### Observations Made at the Maine Experiment Station.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Mean. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Highest barometer | 30.55 | 30.51 | 30.38 | 30.28 | 30.20 | 30.07 | 30.03 | 30.13 | 30.28 | 30.43 | 30.43 | 30.20 | 30.28 | |
| Lowest barometer | 29.17 | 29.37 | 29.27 | 28.98 | 29.52 | 29.30 | 29.28 | 28.36 | 29.39 | 29.27 | 29.18 | 29.13 | 29.18 | |
| Mean barometer | 30.05 | 29.87 | 29.89 | 29.69 | 29.82 | 29.80 | 29.71 | 29.78 | 29.88 | 29.85 | 29.91 | 29.81 | 29.84 | |
| Highest temperature | 47°.0 | 43°.0 | 60°.0 | 65°.0 | 75°.0 | 90°.0 | 91°.0 | 88°.0 | 81°.0 | 67°.0 | 57°.0 | 55°.0 | | |
| Lowest temperature | -40°.0 | -28°.0 | -25°.0 | 9°.0 | 27°.0 | 34°.0 | 47°.0 | 40°.0 | 37°.0 | 42°.0 | 10°.0 | -2°.0 | | |
| Mean temperature | 13°.1 | 13°.8 | 27°.2 | 39°.0 | 49°.0 | 61°.9 | 66°.9 | 65°.2 | 59°.3 | 44°.4 | 35°.6 | 27° 8 | 41° 93 | |
| Mean temperature for 39 years | 16°.0 | 18°.9 | 27°.9 | 40°.7 | 52°.4 | 61° 8 | 67°.0 | 65°.0 | 57°.4 | 44°.9 | 34°.2 | 20°.5 | 42°.22 | |
| Total precipitation in inches | 4.41 | 3.01 | 2.25 | 3.53 | 1.77 | 5.77 | 3.44 | 1.41 | 6.12 | 2.72 | 4.22 | 3.84 | ..... | 42.49 |
| Mean precipitation for 39 years | 4.26 | 3.81 | 4.29 | 2.90 | 3.49 | 3.58 | 3.28 | 3.44 | 3.43 | 3.82 | 3.74 | 3.77 | ..... | 43.81 |
| No. of days with precip. of .01 in. or more | 10 | 13 | 7 | 6 | 6 | 9 | 12 | 10 | 16 | 8 | 7 | 7 | ..... | 111 |
| Snow fall in inches | 31.5 | 27.0 | 15.5 | 18.0 | ..... | ..... | ..... | ..... | ..... | ..... | 1.0 | 7.7 | ..... | 100.7 |
| Average snow fall for 39 years | 22.9 | 21.3 | 15.9 | 5.6 | 0.3 | ..... | ..... | ..... | ..... | 0.8 | 8.1 | 17.0 | ..... | 91.9 |
| Number of clear days | 12 | 15 | 14 | 11 | 6 | 10 | 10 | 11 | 7 | 10 | 9 | 8 | ..... | 123 |
| Number of fair days | 8 | 7 | 4 | 4 | 12 | 5 | 10 | 11 | 11 | 4 | 8 | 7 | ..... | 91 |
| Number of cloudy days | 11 | 6 | 13 | 15 | 13 | 15 | 11 | 9 | 12 | 17 | 13 | 16 | ..... | 151 |
| Total movement of wind in miles | 4773 | 5038 | 5060 | 6817 | 6332 | 4210 | 4470 | 4085 | 4397 | 5764 | 4539 | 5512 | | |

## Monthly and Annual Precipitation (as rain) for the Year 1907.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Annual. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bar Harbor | 3.00 | 3.45 | 2.00 | 5.30 | 2.90 | 4.48 | 3.05 | 2.37 | 5.90 | 4.90 | 5.30 | 5.75 | 48.40 |
| Cornish | 3.04 | 2.45 | 3.03 | 3.19 | 2.05 | 4.25 | 2.85 | 2.06 | 7.51 | 4.06 | 6.04 | 3.27 | 43.80 |
| Debsconeag | 2.85 | 1.75 | 2.80 | 3.80 | 1.30 | 7.57 | 5.85 | 2.30 | 6.10 | 4.50 | ..... | 3.44 | ..... |
| Eastport | 5.05 | 4.59 | 3.17 | 4.54 | 1.84 | 1.57 | 4.32 | 2.43 | 4.41 | 4.71 | 2.85 | 4.94 | 44.42 |
| Fairfield | 3.19 | 2.65 | 1.43 | 3.49 | 2.62 | 2.95 | 5.36 | 1.32 | 5.23 | 2.34 | 3.66 | 2.68 | 36.92 |
| Farmington | 2.34 | 1.96 | 2.88 | 4.05 | 2.57 | 2.88 | 4.59 | 2.09 | 5.97 | 6.15 | 4.50 | 3.30 | 43.28 |
| Gardiner | 3.12 | 2.50 | 2.09 | 3.70 | 2.48 | 3.10 | 2.77 | 1.51 | 7.38 | 4.15 | 4.97 | 3.75 | 41.52 |
| Greenville | 0.98 | 1.30 | 2.56 | 3.78 | 2.54 | 6.90 | 5.81 | 2.68 | 5.64 | ..... | 5.16 | 3.12 | ..... |
| Houlton | 1.90 | 1.50 | 1.70 | 1.75 | 1.00 | 4.20 | ..... | 3.22 | 5.00 | 3.10 | 2 10 | 2.00 | ..... |
| Lewiston | 2.45 | 2.29 | 3.05 | 3.71 | 2.11 | 4.79 | 2.63 | 2.56 | 7.03 | 3.56 | 4.25 | 3.58 | 42.01 |
| Madison | 2.38 | 2.45 | 1.84 | 6.32 | 2.83 | 3.89 | 7.34 | 2.54 | 7.49 | 6.31 | 6.28 | 4.35 | 54.02 |
| Mayfield | 1.33 | 1.72 | 1.86 | 4.04 | 2.40 | 4.64 | 4.75 | 3.18 | 5.67 | 6.11 | 5.35 | 5.42 | 46.47 |
| Millinocket | 3.24 | 1.95 | 2.16 | 3.60 | 2.50 | 7.33 | 4.70 | 4.04 | 5.31 | 4.14 | 3.75 | 3.32 | 46.04 |
| North Bridgton | 1.90 | 1.89 | 3.68 | 3.80 | 2.21 | 4.28 | 2.95 | 2.10 | 6.49 | 4.49 | 4.74 | 3.67 | 42.20 |
| Oquossoc | 2.03 | 1.38 | 2.86 | 3.61 | 1.90 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Orono | 4.41 | 3.01 | 2.25 | 3.53 | 1.77 | 5.77 | 3.44 | 1.41 | 6.12 | 2.72 | 4.22 | 3.84 | 42.49 |
| Patten | 1.00 | 2.40 | 1.40 | 1.50 | 2.05 | 10.04 | 4.21 | 5.00 | 6.04 | 5.70 | 5.30 | 4.00 | 48.64 |
| Portland | 2.46 | 2.95 | 2.58 | 2.75 | 1.99 | 3.55 | 3.63 | 2.07 | 7.71 | 2.53 | 4.40 | 4.12 | 40.74 |
| Rumford Falls | 1.67 | 1.52 | 2.90 | 3.88 | 1.84 | 3.03 | 3.53 | 1.22 | 6.34 | 5.17 | 5.14 | 2.68 | 38.92 |
| Van Buren | 2.80 | 1.80 | 3.20 | 2.30 | 0.90 | 6.20 | 5.90 | 4.40 | 3.70 | 2.87 | 3.00 | 4.70 | ..... |
| Winslow | 2.60 | 1.56 | 1.72 | 3.40 | 2.58 | 2.90 | 5.26 | 0.83 | 6.00 | 3.24 | 4.49 | 3.15 | 37.73 |

With the exception of readings from the Orono station, the above table is complied from the monthly bulletins of the U. S. Weather Bureau

# REPORT OF THE TREASURER.

Maine Agricultural Experiment Station in account with the United States appropriation, 1906-7, Hatch Fund:

Dr.

| | |
|---|---|
| To receipts from the Treasurer of the United States as per appropriation for the fiscal year ending June 30, 1907, as per act of Congress approved March 2, 1887 | $15,000 00 |

Cr.

| | | |
|---|---|---|
| By salaries: | | |
| (a) Director and administration officers | $3,975 97 | |
| (b) Scientific staff | 1,664 88 | |
| (c) Assistants to scientific staff | 1,823 01 | |
| (d) Special and temporary services | 125 57 | |
| Total | | $7,589 43 |
| Labor: | | |
| (b) Daily employees | $637 89 | |
| (d) Teams | 147 95 | |
| Total | | 785 84 |
| Publications | | 332 83 |
| Postage and stationery | | 433 44 |
| Freight and express | | 283 66 |
| Heat, light, water, and power | | 175 95 |
| Chemical supplies | | 251 79 |
| Seeds, plants and sundry supplies: | | |
| (a) Agricultural | $13 75 | |
| (d) Entomological | 218 29 | |
| (e) Miscellaneous | 50 36 | |
| (f) Photography | 28 51 | |
| Total | | 310 91 |

| | |
|---|---|
| Fertilizers | 85 |
| Feeding stuffs | 1,296 83 |
| Library | 965 71 |
| Tools, implements and machinery | 73 06 |
| Furniture and fixtures | 850 45 |
| Scientific apparatus | 310 67 |
| Live stock | 173 40 |
| Contingent expenses | 15 00 |
| Traveling expenses | 400 18 |
| Buildings and repairs | 750 00 |
| Total | $15,000 00 |

Maine Agricultural Experiment Station in account with the United States appropriation, 1906-7, Adams Fund:

Dr.

| | |
|---|---|
| To receipts from the Treasurer of the United States as per appropriation for the fiscal year ending June 30, 1907, as per act of Congress approved March 16, 1906 | $7,000 00 |

Cr.

| | | |
|---|---|---|
| By salaries: | | |
| (b) Scientific staff | $5,545 47 | |
| (d) Special and temporary services | 109 05 | |
| Labor Total | | $5,654 52 |
| (d) Teams | | 1 50 |
| Freight and express | | 2 10 |
| Heat, light, water, and power | | 28 82 |
| Chemical supplies | | 3 17 |
| Seeds, plants and sundry supplies: | | |
| (b) Pomological | $72 43 | |
| (e) Miscellaneous | 12 06 | |
| (g) Vegetable Pathological | 177 25 | |
| Total | | 261 74 |
| Fertilizers | | 51 34 |
| Feeding stuffs | | 4 60 |
| Library | | 320 41 |
| Tools, implements and machinery | | 70 |
| Scientific apparatus | | 471 36 |
| Traveling expenses | | 199 74 |
| Total | | $7,000 00 |

I, the undersigned, duly appointed Auditor of the Corporation, do hereby certify that I have examined the books of the Maine Agricultural Experiment Station for the fiscal year ending June 30, 1907; that I have found the same well kept and classified as above, and that the receipts for the year from the Treasurer of the United States are shown to have been $22,000.00, and the corresponding disbursements, $22,000.00; for all of which proper vouchers are on file and have been examined by me and found correct.

And I further certify that the expenditures have been solely for the purposes set forth in the acts of Congress approved March 2, 1887, and March 16, 1906.

GEORGE E. FELLOWS, *Auditor.*

Maine Agricultural Experiment Station in account with "General Account" for the year ending June 30, 1907.

Dr.

| | | |
|---|---|---|
| To balance from 1904-1905 | $3,685 84 | |
| Sales of produce, inspection fees, etc | 11,277 68 | $14,963 52 |

Cr.

| | | |
|---|---|---|
| By salaries | $5,176 52 | |
| Labor | 719 85 | |
| Publications | 3 25 | |
| Postage and stationery | 128 36 | |
| Freight and express | 80 56 | |
| Heat, light, water and power | 363 84 | |
| Chemical supplies | 199 16 | |
| Seeds, plants and sundry supplies | 393 89 | |
| Fertilizers | 88 93 | |
| Feeding stuffs | 1,245 87 | |
| Library | 611 98 | |
| Tools, implements and machinery | 42 63 | |
| Furniture and fixtures | 123 65 | |
| Scientific apparatus | 208 50 | |
| Live stock | 142 16 | |
| Traveling expenses | 912 38 | |
| Buildings | 938 03 | |
| Balance to 1906-1907 account | 3,583 96 | 14,963 52 |

ISAIAH K. STETSON, *Treasurer.*

The Bulletins of this Station will be sent free to any address in Maine. All requests should be sent to

Agricultural Experiment Station,
Orono, Maine.

# INDEX.

TWENTY-THIRD ANNUAL REPORT

OF THE

# Maine Agricultural Experiment Station

ORONO, MAINE.

1907

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STATE OF MAINE
1908

# MAINE
# AGRICULTURAL EXPERIMENT STATION
# ORONO, MAINE.

## THE STATION COUNCIL.

| | |
|---|---|
| PRESIDENT GEORGE E. FELLOWS | *President* |
| DIRECTOR CHARLES D. WOODS | *Secretary* |
| JOHN A. ROBERTS, Norway | *Committee of Board of Trustees* |
| CHARLES L. JONES, Corinna | |
| *ALBERT J. DURGIN, Orono | |
| †SAMUEL W. GOULD, Skowhegan | |
| AUGUSTUS W. GILMAN, Foxcroft | *Commissioner of Agriculture* |
| EUGENE H. LIBBY, Auburn | *State Grange* |
| CHARLES S. POPE, Manchester | *State Pomological Society* |
| RUTILLUS ALDEN, Winthrop | *State Dairymen's Association* |
| JAMES M. BARTLETT | *Members of the Station Staff* |
| LUCIUS H. MERRILL | |
| FREMONT L. RUSSELL | |
| ‡WELTON M. MUNSON | |
| §GILBERT M. GOWELL | |
| EDITH M. PATCH | |
| WARNER J. MORSE | |
| ‖RAYMOND PEARL | |

## THE STATION STAFF.

| | |
|---|---|
| CHARLES D. WOODS | *Director* |
| JAMES M. BARTLETT | *Chemists* |
| LUCIUS H. MERRILL | |
| HERMAN H. HANSON | |
| ARTHUR C. WHITTIER | |
| JOANNA C. COLCORD | |
| FREMONT L. RUSSELL | *Veterinarian* |
| ‡WELTON M. MUNSON | *Pomologist* |
| §GILBERT M. GOWELL | *Poultry Investigations* |
| WALTER ANDERSON | |
| EDITH M. PATCH | *Entomologist* |
| WARNER J. MORSE | *Vegetable Pathologist* |
| ‖RAYMOND PEARL | *Biologists* |
| ¶FRANK M. SURFACE | |
| ‖REX C. GELLERSON | *Inspector* |
| ROYDEN L. HAMMOND | *Seed Analyst and Photographer* |
| ANNIE M. SNOW | *Clerk and Stenographer to the Director* |
| BLANCHE F. POOLER | *Stenographer* |
| HENRY A. MILLETT | *Meteorological Observer and Janitor* |
| **FRANK D. STERRY | *Laboratory Assistant* |

*Term expired April, 1907.
†Since June, 30, 1907.
‡Resigned June 30, 1907.
§Resigned December 31, 1907.
‖Appointed July 1, 1907.
¶Appointed August 1, 1907.
**Appointed October 1, 1907.

# TABLE OF CONTENTS.

# ANNOUNCEMENTS.

## THE AIM OF THE STATION.

Every citizen of Maine concerned in agriculture has the right to apply to the Station for any assistance that comes within its province. It is the wish of the Trustees and Station Council that the Station be as widely useful as its resources will permit.

In addition to its work of investigation, the Station is prepared to make chemical analyses of fertilizers, feeding stuffs, dairy products and other agricultural materials; to test seeds and creamery glassware; to identify grasses, weeds, injurious fungi and insects, etc.; and to give information on agricultural matters of interest and advantage to the citizens of the State.

All work proper to the Experiment Station and of public benefit will be done without charge. Work for the private use of individuals is charged for at the actual cost to the Station. The Station offers to do this work only as a matter of accommodation. Under no condition will the Station undertake analyses, the results of which cannot be published, if they prove of general interest.

## CORRESPONDENCE.

As far as practicable, letters are answered the day they are received. Letters sent to individual officers are liable to remain unanswered, in case the officer addressed is absent. All communications should, therefore, be addressed to the Director or to the

Agricultural Experiment Station,
Orono, Maine.

The post-office, railroad station, freight, express and telegraph address is Orono, Maine. Visitors to the Station can take the electric cars at Banogr and Old Town.

The Station is connected by telephone.

# HISTORICAL NOTES FOR 1907.

## Publications.

The Experiment Station publishes during the year second bulletins which make up the annual report for the year. All bulletins isued by the Station are sent to the names upon the official mailing list prepared by the Office of Experiment Stations, to all newspapers of Maine, to libraries and to agricultural exchanges. Bulletins which have to do with general agriculture including feedng stuff, fertilizer and seed inspection are sent to the general maling list. Bulletins having to do with food and drug inspection are sent to a special list of all dealers in Maine. The annual report is sent to directors and to libraries.

The Station prints miscellaneous publications which in the case of newspaper bulletins are sent to the press of the State and exchanges. The other publications are chiefly used in answer to inquiries.

### Bulletins issued during 1907.

| | | | |
|---|---|---|---|
| Bulletin 138. | Seed Inspection, | 48 | pages |
| " 139. | Orchard Notes, 1906, | 16 | " |
| " 140. | Fertilizer Inspection, | 16 | " |
| " 141. | Prevention of Potato Scab, | 12 | " |
| " 142. | Feeding Stuff Inspection, | 20 | " |
| " 143. | Notes on the Seedling Apples of Maine, | 30 | " |
| " 144. | Poultry Experiments, | 44 | " |
| " 145. | Food Inspection, | 16 | " |
| " 146. | Fertilizer Inspection, | 32 | " |
| " 147. | The Potato Plant Louse, | 24 | " |
| " 148. | Insect Notes for 1907, | 28 | " |
| " 149. | Potato Diseases, 1907, | 44 | " |
| " 150. | Meteorology, Treasurer, Index, | 15 | " |

MISCELLANEOUS PUBLICATIONS FOR 1907.

265 Newspaper notice of bulletins 135 and 136—one page.
266 List of bulletins published in 1903-1906—one page.
267 Newspaper notice of bulletin 138—one page.
268 Newspaper notice of bulletin 139—one page.
269 Circular relative to poultry breeding stock—one page.
270 Circular on poultry publications—one page.
271 Newspaper notice of bulletins 140—one page.
272 Newspaper notice of bulletin 141—one page.
273 Maine Food and Drug Regulations—12 pages.
274 Laws regulating the sale of food and drugs, feeding stuffs, fertilizers, seeds and creamery glassware—20 pages.
275 The Farmer and the Seed Law—one page.
276 Apple Maggot or Railroad Worm—4 pages.
277 The Quality of Grass Seed—one page.
278 Newspaper notice of bulletin 142—one page.
279 Mailing list revision circular and card.
280 Newspaper notice bulletin 143—one page.
281 Newspaper notice of bulletin 144—one page.
282 Samples of foods and drugs for analysis—one page.
283 Sirup standards—one page.
284 Circular to handlers of cotton seed meal in car lots—1 page.
285 Written guaranty the dealers safeguard—one page.
286 Directions for sampling feeding stuffs—2 pages.
287 Newspaper notice of bulletin 145—one page.
288 Labeling soda water and soda water sirups—one page.
289 Notice to druggists—2 pages.
290 Newspaper notice of bulletin 146—one page.
291 Plum curculio—8 pages.
292 Swallow tail butterfly—4 pages.
293 Sphinx chersis—8 pages.
294 Fall web worm—2 pages.
295 Luna moth—4 pages.
296 Tiger moth—4 pages.
297 Bud moth—2 pages.
298 Polyphemus moth—4 pages.
299 Cherry tree ugly nest—2 pages.
300 Io moth—4 pages.
301 Newspaper notice of bulletin 147—one page.
302 Newspaper notice of bulletin 148—one page.

## Changes in Station Council.

The term of office of Hon. A. J. Durgin as Trustee of the University of Maine expired in April, 1907. Hon. Samuel W. Gould of Skowhegan, Trustee to the University was appointed in June to be a member of the Station Council in Mr. Durgin's stead.

As noted below, Professor Munson resigned June 30 and Professor Gowell resigned December 31 from the Experiment Station staff and from those dates they were no longer members of the Station Council.

Dr. Raymond Pearl was made a member of the Council dating from July 1, 1907.

## Changes in the Station Staff.

Professor Welton M. Munson, Ph. D., resigned June 30 from the Experiment Station as Pomologist to accept a somewhat similar position at the West Virginia Experiment Station and University. Dr. Munson had been connected with the Maine Experiment Station since 1891 and had becomse closely identified with the horticultural interests and particularly the orcharding of Maine.

Professor Gilbert M. Gowell resigned from the teaching force of the University of Maine June 30, 1907, and from the Experiment Station December 31, 1907. Prof. Gowell has long been associated with the agriculture of the University and was one of the first appointments to the Experiment Station staff, being superintendent of field and feeding experiments to the Maine Fertilizer Control and Agricultural Experiment Station which was established in 1885. In the reorganization of the Station, for quite a number of years, Prof. Gowell was connected entirely with the University but in 1896 he became Agriculturist to the Station. During the last ten years his work at the Station has been largely along the lines of poultry investigations, for which work he is best and widely known. During the past three years, Prof. Gowell has developed a very extensive and successful poultry plant at Orono to which he now intends to devote his whole attention.

As stated last year, the Experiment Station Council had decided to very materially develop breeding investigations at the

Experiment Station and for this purpose established the Department of Biology. This action went into actual effect by the appointment (July 1, 1907) of Raymond Pearl, Ph. D., University of Michigan as Biologist, and (Aug. 1, 1907) Frank M. Surface, Ph. D., University of Pennsylvania as associate biologist. The immediate problems which are engaging the attention of the biologists are the breeding of sweet corn and the study of the fndamental principles which underlie animal breeding. The large poultry plant of the Station is being utilized for this purpose.

### Buildings.

The Station library had outgrown the shelf room in the director's office and the east room in the upper floor of the north wing of the Station building was fitted up during the summer of 1907 for the library. This is the largest room in the Experiment Station building and is of sufficient capacity to house the library with its normal growth for a number of years.

The west room on the ground floor of the north wing was fitted up during the summer for an office and laboratory for the Biologists.

A two-story wooden building 39 x 40 feet was erected in the fall of 1907 between poultry houses No. 2 and 3. Two-thirds of the first floor is used for the storage of grain, for the heating apparatus and for wash room for poultry appliances. The remainder of the space—three rooms each approximately 10 x 13 have been fitted up for surgical laboratories to be used by the Biologists in poultry investigations. These rooms are heated by hot water, lighted by electricity and provided with hot and cold water for washing; also they have the latest antiseptic devices and are thoroughly equipped with apparatus for surgical work in poultry. The upper floor is used for the storage of poultry appliances.